

Fairfield Hospital



**INFECTION CONTROL MANUAL**

**Policy for the control of MRSA**

**Recommending Committee:** **St Helens and Knowsley Hospital  
Control of Infection Committee**

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**Location of Policy**

**All wards and departments (for information purposes)**

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## **INTRODUCTION**

Staphylococcus aureus is one of the most common causes of hospital-acquired infection. MRSA (Methicillin-resistant Staph aureus) is resistant to many antibiotics e.g. flucloxacillin, erythromycin, all cephalosporins, imipenem etc.

EMRSA 15 (epidemic MRSA 15) is the main likely strain of MRSA in this hospital. Unlike sensitive strains of Staph aureus, it spreads much more easily, causing outbreaks of infection. It causes a wide range of infections including wound infections, UTIs, Venflon site infections; it is seen in addition to these. Although the majority of cases are in adult patients, children can also acquire MRSA. The precautions advised apply to both children and adult patients.

Although many patients are only colonised with the organism, many have developed serious infections, and some have died as a direct result of the infection. Therefore it is important to protect patients from acquiring MRSA.

### **How MRSA spreads**

MRSA spreads predominantly on staff hands. However airborne spread also occurs. This organism is widely shed by the patient into the environment e.g. onto bed linen, curtains, dust etc. It can survive in the environment for up to 2 weeks. The organism spreads very easily. Patients have acquired MRSA even after brief exposure to MRSA carriers. Fairfield Hospital has single rooms only.

### **Admission of known carriers of MRSA**

The Infection Control Nurse must always be informed of patients who have previously found to be MRSA carriers. Do not be re-assured by a couple of negative MRSA screens or by the fact that the MRSA carriage started a long time ago. Patients commonly harbour MRSA for many years. They may have up to 7 negative screens then carriage reappears, often when they are started on antibiotics to which the organism is resistant.

Fairfield Hospital will not admit any patients who are MRSA positive. However this policy will apply to any patients who subsequently test positive whilst an in patient

### **Isolation of MRSA patients**

Patients with MRSA must be isolated in single rooms, otherwise outbreaks of infection will occur. The room should preferably have en suite bathroom/toilet. The door must be kept closed at all times to prevent airborne dissemination of MRSA. An airborne isolation instruction chart should be affixed to the outside of the door.

### **Before entering the room**

Put on a plastic apron (RMO/ CONSULTANT should remove white coats first).

### **Before leaving the room**

Remove plastic apron, discard it into a yellow plastic bag and decontaminate your hands.

These simple measures will stop the spread of MRSA to other patients.

### **Hand Decontamination**

Hands are the most likely source of cross-infection, therefore special attention must be paid to hand hygiene by all staff. Always decontaminate hands with liquid soap

and water, after handling the patient, prior to leaving the room. Alternatively, if hands are clean, use alcohol hand rub.

### **Bathing**

When bathing MRSA patients use a disposable flannel and discard it after use. Do not use Aquasept/Hibiscrub/Octenisan for more than 1 week.

### **Other protective clothing**

Additional protective clothing is not usually required except in the following circumstances:

**Gloves** should be worn for potential contact with blood or body fluids. Hands must still be washed after removal of gloves.

**Masks** are rarely necessary except for procedures which generate staphylococcal aerosols e.g. sputum suction, chest physiotherapy or procedures on patients with exfoliative skin conditions.

### **Visors/Goggles**

These must be worn if splashes with body fluids to the facial area are anticipated.

### **Visitors**

Visitors do not need a plastic apron unless helping with physical care or visiting other patients in the hospital. If an apron is used, on leaving the room the apron should be discarded into a yellow clinical waste bag. Visitors must always wash their hands before leaving the room.

### **Linen**

Change all bed linen daily. Don't shake linen when removing it from the bed as this increases airborne contamination. Carefully place soiled linen into a red alginate bag, which is then placed inside a red linen bag. Affix identification labels before sending to the laundry as soon as possible.

### **Clinical Waste**

All waste for incineration is to be placed inside yellow plastic clinical waste bag inside the room. Tie the top securely when  $\frac{3}{4}$  full. Affix identification labels.

### **Toilet**

All patients must be in a room with ensuite

### **Mobilisation of patients**

Some patients require mobilisation prior to discharge. Patients must NOT mobilise where other patients are exposed to the risk of infection i.e. they must not be allowed to walk around the main corridors. MRSA patients are allowed outside as long as direct contact with other patients is avoided. Any lesions must be occluded with impermeable dressings wherever possible. The attendants must wear a plastic apron and decontaminate their hands afterwards. Wheelchairs must be wiped with an alcohol wipe and linen is treated as infection linen on return to the ward. Patients found to be MRSA positive must be nursed in bedroom with no carpet .

### **Transport of patients to other areas**

Movement to other areas should be kept to a minimum and prior arrangements should be made.

### *Transfer to departments e.g. Radiology*

Before transferring the patient, inform the department of the precautions required. If possible arrange for the patient to have the last appointment on the list and to spend only the minimum time in the department in order to minimise the serious potential infection risks to other patients. The patient should only be sent for when the department is ready. MRSA carriers must not be left in waiting areas with other patients. Staff delivering or collecting the patient must decontaminate their hands after patient contact. An apron is only required if close physical contact is anticipated. The wheelchair should be kept in the department for the patient's return journey to the ward and cleaned with an alcohol wipe after the patient has returned to the ward.

Departmental staff coming into contact with the patient should wear a plastic apron. Disposable gloves should be worn if coming into contact with lesions or blood or body fluids. Hand washing is essential after patient contact. Staff should avoid direct contact with other patients while dealing with an MRSA patient. Equipment and the number of staff attending should be kept to a minimum.

Surfaces e.g. the chair that the patient has been in contact with should be wiped clean with an alcohol wipe.

Inform staff of receiving hospital of all required precautions and relevant culture reports. The patient's infections status should be recorded on the transfer form.

### **Surgical operations**

Patients undergoing vascular or orthopaedic surgery are advised to follow the regime in Appendix 2 in order to reduce numbers of MRSA before operation.

### *Ward preparation*

Make sure that theatre is aware of the patient's MRSA status in advance, so that they can be put last on the list.

Prior to surgery, bathe or shower the MRSA patient with Aquasept/Hibiscrub/Octenisan.

Cover any MRSA affected lesion with an impermeable dressing if possible.

Clean the area adjacent to the lesion with 70% alcohol.

Apply mupirocin to the nose before the operation if the patient is a nasal carrier.

Transport the patient to and from theatre on a trolley made up completely with fresh linen. The trolley must be thoroughly cleaned after use, especially areas in direct contact with the patient.

Consult the Microbiology Consultant or Specialist Registrar for advice on antibiotic prophylaxis if required.

### **Domestic management**

The domestic management should ideally be informed of a patient being isolated. A He/She will provide domestic staff with appropriate instructions and equipment.

Nursing staff must check that ward domestics understand and are following their instructions correctly.

### **Terminal cleaning of room**

All linen, including curtains, should be discarded carefully into a red alginate laundry bag which is then placed inside a red cotton laundry bag. Affix identification. All surfaces should be thoroughly cleaned using general purpose detergent and water and dried. Use disposable cloths, paying particular attention to horizontal and dust collecting surfaces including light fittings, window and door ledges, bed frame, mattress, overhead lamp, pillows etc isolation.

Check the condition of the mattress. If it is stained or soiled, or if the cover has been torn, send for immediate disposal.

Wall washing is not required unless the walls are visibly dirty or after discharge of an MRSA patient with an exfoliative skin condition.

### **Equipment**

Stethoscopes should be designated for MRSA patients. If not possible, the stethoscope (especially the diaphragm/bell) must be wiped with an alcohol wipe after use. Disposable single patient use BP cuffs should be used and kept in the room until patients discharge.

### **Discharge of the patient**

MRSA patients should be discharged promptly from the hospital when their clinical condition allows.

#### *Discharge home*

Reassure the patient and visitors that MRSA carriers do not need any special treatment once they get home. There is no risk to the health of the relatives or others outside the hospital unless they are hospital workers with patient contact. In this case the Infection Control Doctor should be informed. The patient should be advised to tell hospital staff that they are MRSA positive if they are readmitted.

#### *Discharge to nursing or residential home*

Inform the nursing and medical staff in advance. MRSA is NOT a contraindication to the transfer of a patient to a nursing or residential home. There are District guidelines available and for additional advice they may contact the CCDC (Consultant in Communicable Disease Control, 0151 290 8355) or the Community Trust Infection Control Nurse (St Helens PCT: Tel: 01744 674001, Knowsley PCT: Tel: 0151 292 3519).

Inform the Infection Control Nurse if a patient is due for discharge. Ensure that community care personnel are aware of any special instructions.

### **Ambulance transportation**

The ambulance service should be warned in advance.

Ambulance staff should use an alcohol hand rub after contact with an MRSA positive patient. They do not need to wear an apron unless close physical contact is anticipated.

Most MRSA patients can be transported with other patients in the same ambulance. However, if transport of a potentially heavy disperser is necessary e.g. patient with many skin lesions or presence of a discharging lesion which cannot be fully enclosed by an impermeable dressing, then it may be necessary to transport this patient alone. In this case, the ambulance staff must wear plastic aprons and wipe down surfaces in direct contact with the patient with an alcohol wipe afterwards.

Use of an alcohol hand rub after patient contact is essential in these circumstances. If in doubt contact the Infection Control Team for advice.

Patients may be discharged home by taxi, if this is required. No precautions are required by the taxi driver.

### **Screening of patients for MRSA**

#### **Summary of MRSA screening**

The following patients must be screened for MRSA (appropriate screening specimens are shown in brackets)

1. All elective/trauma orthopaedic patients prior to admission (nose & groin).
2. All patients who have had MRSA in the past (nose & groins).

3. All patients admitted from other hospitals must be tested prior to admission to Fairfield.
4. All patients from nursing and residential homes (nose).
5. All immunocompromised patients on insertion of Hickman line (nose & throat).
6. Prior to transfer to other hospitals if requested by the receiving hospital (they will advise on swabs required).
7. During investigation of an outbreak (nose & throat), on the advice of the Infection Control Team).
8. All medical/nursing staff admitted as in-patients (nose & throat).

### **Newly identified MRSA patient**

When a patient has been identified as being MRSA positive e.g. in wound, a screen should be taken to identify sites of carriage i.e. nose, throat, perineum, axillae, groins (5 swabs).

Repeat screens are not very helpful and need not be done on a regular basis as patients still need to be isolated even if some screens come back negative. However, if a patient is readmitted and has not been screened for MRSA for a long time, a full MRSA screen should be done i.e. nose, throat, axillae, groin & perineum plus any wound swabs together with CSU if the patient is catheterised. If the patient is colonised solely in the nose, contact Infection Control Nurse to obtain advice on clearance regime. Only attempt clearance regime on the advice of the Infection Control Nurses. Only one attempt at clearance should be made unless advised otherwise by ICN.

### **Outbreak screen**

When patients have been in contact with a patient with MRSA, the Infection Control Team will usually recommend screening for MRSA. Under these circumstances 2 swabs are sufficient: one swab for both nostrils and one throat swab.

### **Screens for transfers to other hospitals**

Some hospitals require an MRSA screen prior to transfer. They will usually advise on what swabs are required. However if they do not specify, the following specimens will usually be sufficient: nose, throat, perineum. Also swab any wounds e.g. surgical wounds, pressure sores, leg ulcers.

### **Outbreak**

In the event of a ward outbreak of MRSA, the Infection Control Nurse will advise on action to be taken and the need for further screening, including staff screening.

When outbreak screening of patients is requested by the Infection Control Nurse, two swabs (nose and throat) are required. Wound swabs and CSUs should also be sent at the next opportunity.

When outbreak screening of staff is requested by the Infection Control Nurse two swabs (nose and throat) are required. In addition, staff suffering from skin lesions should also send in a swab of the lesion.

The minimum data required for an MRSA screen is name, ward, date of birth and first line of home address. Request forms should be request MRSA screen under clinical details.

### **Death of patient**

The precautions taken when laying out the dead patient should be the same as in life. Any lesions are to be covered with impermeable dressings. Body bags are NOT necessary unless the patient has some other condition e.g. Hepatitis B/C/HIV etc.

## **RIDDOR**

MRSA colonisation in staff is NOT reportable under RIDDOR. However, if the member of staff develops a clinical infection due to MRSA and acquisition of the MRSA can be reliably attributed to his/her work, then the infection should be reported to the Health and Safety Executive under RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences).

## **Further advice**

Further advice may be obtained from the Director of Nursing at Fairfield Hospital or Infection Control Team at Whiston hospital :

Service Manager, Infection Control                      Extension 1384/Bleep 0020

Clinical Nurse Specialist Infection Control:      Extension 4105/Bleep 0020

Clinical Nurse Specialist Infection Control:      Extension 2452/Bleep 2452

Consultant Microbiologist & DIPC:                      Extension 1834

Consultant Microbiologist:                              Extension 1836

Please contact duty Microbiologist via hospital switchboard out of hours

## **References**

1. Guidelines on the control of MRSA in hospitals. Report of BSAC/HIS/ICNA Working Party 1997.
2. Guidelines for the control & prevention of MRSA in healthcare facilities by the Joint BSAC/HIC/ICNA working party on MRSA. Journal of Hospital Infection 2006; 63:Supplement 1 S1-S70.
3. Guidelines for prophylaxis and treatment of MRSA infections in the UK. Journal of Antimicrobial Chemotherapy 2006; 57:589-608.

## **APPENDIX 1**

### **Eradication of EMRSA from staff**

Health care workers sometimes become carriers of MRSA. They are usually detected by screening specimens taken during an outbreak. They rarely get infected with the organism and even then usually just minor skin infection. However they can spread MRSA to patients. Therefore every attempt must be made to eradicate MRSA carriage from staff. The following policy refers to the current method for eradication EMRSA 15. Staff may acquire different strains, with different antibiotic sensitivities. Medical microbiology staff will always advise on the most appropriate treatment.

## **Eradication of EMRSA 15**

### **Nasal carriage only**

Nasal **mupirocin** 2% ointment (Bactroban) applied 3 times daily to the inner surface of each nostril for 5 days.

Total body and hairwashing with **Aquasept/Hibiscrub/Octenisan** (ordinary shampoo should be used afterwards) for 5 days. Pay special attention to carriage sites e.g. axillae, perineum, groin. Octenisan should only be used for those who cannot tolerate Aquasept/Hibiscrub.

Apply chlorhexidine powder daily to axillae, perineum and groins.

Provided this treatment has been started, the staff member can **continue at work, unless they work on ITU or orthopaedics when they should be excluded from work for the first 48 hours of treatment.**

In order to eradicate MRSA from the **home environment**:

Destroy any items which are likely to harbour MRSA and re-infect the member of staff e.g. toothbrushes, make-up brushes and sponges, loofahs etc. Make sure clothes, bed linen and towels are freshly laundered at the hottest wash cycle that they will withstand.

**Reswab nose** 3 days after finishing treatment and again 3 weeks later.

### **Nose and throat carriage**

Nasal **mupirocin** 2% ointment (Bactroban) applied 3 times daily to the inner surface of each nostril for 5 days.

Total body and hairwashing with **Aquasept/Hibiscrub/Octenisan** (ordinary shampoo should be used afterwards) for 5 days. Octenisan should only be used for those who cannot tolerate Aquasept/Hibiscrub.

Apply chlorhexidine powder daily to axillae, perineum and groins.

Oral **trimethoprim** 200 mg twice daily for 5 days with oral **fusidic acid** 500 mg tds

The member of staff must go **off sick** until the screen at the end of treatment is clear.

In order to eradicate MRSA from the **home environment**:

Destroy any items which are likely to harbour MRSA and re-infect the member of staff e.g. toothbrushes, make-up brushes and sponges, loofahs etc. Make sure clothes, bed linen and towels are freshly laundered at the hottest wash cycle that they will withstand.

**Reswab nose** 3 days after finishing treatment and again 3 weeks later.

## **Eradication of EMRSA 15 from patients**

Eradication of MRSA from patients is much more difficult than MRSA eradication from staff. Eradication at sites other than the nose can fail. Indications for decolonisation:

- Pre op patients with MRSA carriage (essential if the patient is due for vascular or orthopaedic surgery).

A risk assessment should be made before deciding to attempt eradication of widespread MRSA from a patient. Some agents can cause side effects and the risks may outweigh the benefits. Prolonged (more than 5 days) or repeat courses should be avoided.

The measures below should be followed when attempting eradication treatment.

### **Nasal carriage only**

Nasal **mupirocin** 2% ointment (Bactroban) applied 3 times daily to the inner surface of each nostril for 5 days. Longer courses must NOT be used because of resistance problems.

Total body and hairwashing with **Aquasept/Hibiscrub/Octenisan** (ordinary shampoo may be used afterwards) for 5 days. Pay special attention to carriage sites eg axilla, groin, perineum. Octenisan should only be used for those who cannot tolerate Aquasept/Hibiscrub.

Apply chlorhexidine powder to axillae, perineum and groins daily after washing and drying. (Avoid open wounds.)

Advise the patient to destroy any disposable items which have been used since MRSA carriage started and which are likely to harbour MRSA and re-infect the patient e.g. toothbrushes, make-up brushes, sponges, loofahs etc.

*Admit patient for elective surgery within five to eight days of eradication therapy ending.*

### **Nose and throat carriage**

Nasal **mupirocin** 2% ointment (Bactroban) applied 3 times daily to the inner surface of each nostril for 5 days. Longer courses must NOT be used because of resistance problems.

Total body and hairwashing with **Aquasept/Hibiscrub/Octenisan** (ordinary shampoo should be used afterwards) for 5 days. Octenisan should only be used for those who cannot tolerate Aquasept/Hibiscrub.

Apply chlorhexidine powder to axillae, perineum and groins daily after washing and drying. (Avoid open wounds.)

Oral **trimethoprim** 200 mg twice daily for 5 days with oral **fusidic acid** 500 mg tds daily for 5 days. (See Paediatric BNF for children's doses).

Take care to ensure that dentures are thoroughly cleaned as these may harbour MRSA, leading to persistent pharyngeal carriage.

Advise the patient to destroy any disposable items which have been used since MRSA carriage started and which are likely to harbour MRSA and re-infect the patient e.g. toothbrushes, make-up brushes, sponges, loofahs etc.

*Admit patient for elective surgery within five to eight days of eradication therapy ending.*

### **Wound carriage**

Mupirocin (2% cream) can be applied to small lesions but not to large, raw areas. Courses longer than 7 days must NOT be used because of resistance problems.

Dressings containing certain antiseptics i.e. iodine or silver may be applied to infected or colonised wounds. These are unlikely to eradicate the organisms but may help to reduce dissemination.

Systemic treatment with appropriate antibiotics should be considered only if the wound is infected or, in exceptional circumstances, to eliminate carriage. When in doubt please contact the Director of Nursing at Fairfield Hospital or Medical Microbiology staff at Whiston Hospital for advice.